

3/18/80

DAVID R. PIGOTT
SAMUEL B. CASEY
CHICKERING & GREGORY
Three Embarcadero Center
Twenty-Third Floor
San Francisco, California 94111
Telephone: (415) 393-9000

CHARLES R. KOCHER
JAMES A. BEOLETT
SOUTHERN CALIFORNIA EDISON COMPANY
P.O. Box 800
2244 Walnut Grove Avenue
Rosemead, California 91770
Telephone: (213) 572-1212

Attorneys for Applicants,
Southern California Edison Company
and San Diego Gas & Electric Company

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	Docket Nos. 50-361 OL
)	50-362 OL
SOUTHERN CALIFORNIA EDISON)	
COMPANY, <u>et al.</u> (San Onofre)	RESPONSE OF SOUTHERN
Nuclear Generating Station,)	CALIFORNIA EDISON COMPANY
Units 2 and 3))	AND SAN DIEGO GAS &
)	ELECTRIC COMPANY TO INTER-
)	VENOR FOE, <u>ET AL.</u> , THIRD
)	<u>SET OF INTERROGATORIES</u>

TO INTERVENORS FRIENDS OF THE EARTH, MR. AND MRS. AUGUST
CARSTENS, MR. AND MRS. LLOYD VON HADEN, MRS. DONIS DAVEY AND
THEIR ATTORNEY OF RECORD:

Pursuant to 10 C.F.R. § 2.740b, Applicants Southern
California Edison Company and San Diego Gas & Electric Company in
the above-entitled action hereby respond to "INTERVENOR, FOE ET
AL. INTERROGATORIES TO SOUTHERN CALIFORNIA EDISON CO. ET AL.,
dated February 15, 1980.

INSTRUCTIONS AND DEFINITIONS

For purposes of the responses contained herein, the following definitions and instructions shall apply:

(a) The term "these interrogatories" refers to "INTERVENOR, FOE ET AL. INTERROGATORIES TO SOUTHERN CALIFORNIA EDISON CO. ET AL" which were mailed to Applicants on February 15, 1980.

(b) The term "FOE et al." refers jointly to the intervenors propounding these interrogatories; namely, Friends of the Earth, Mr. and Mrs. August Carstens, Mr. and Mrs. Lloyd Von Haden, and Mrs. Donis Davey.

(c) The term "Applicants" refers jointly to the co-owners of San Onofre Nuclear Generating Station, Units 2 and 3, Southern California Edison Company and the San Diego Gas & Electric Company.

(d) The terms "SONGS 2 and 3" refers to the San Onofre Nuclear Generating Station, Units 2 and 3.

(e) The term "SCE" refers to the Southern California Edison Company. The term "SDG&E" refers to San Diego Gas & Electric Company.

(f) The term "NRC" refers to the United States Nuclear Regulatory Commission.

(g) The term "FSAR" refers to the "Final Safety Analysis Report, San Onofre Nuclear Generating Station, Units 2 and 3," which Applicants believe is currently available to the public in the Public Documents Room of the Mission Viejo Public Library.

(h) Applicants occasionally refer to "Response to NRC Questions, San Onofre Nuclear Generating Station, Units 2 and 3." The Responses are formal submittals prepared by Applicants

1 in response to formal written questions of the NRC. The Re-
2 sponses are found in four separate volumes and are included as
3 part of the FSAR. Applicants believe that the Responses are
4 currently available to the public in the Public Document Room of
5 the Mission Viejo Public Library.

6 (i) To enhance the completeness and responsiveness of
7 its answers to these interrogatories, Applicants in answering
8 some of the interrogatories have provided references to portions
9 of the PSAR, FSAR, and the Responses to NRC questions which
10 Applicants believe to contain some or all information requested.

11 (j) In all instances, SCE in response to these inter-
12 rogatories has provided such relevant, unprivileged, non-confi-
13 dential information that is responsive to each of these inter-
14 rogatories and that has either been submitted to the NRC by or on
15 behalf of SCE or is available from SCE files and personnel.

16 (k) Where the interrogatories ask whether Applicants
17 have "analyzed" a document or subject, Applicants have defined
18 analysis to be where Applicants or its consultants have reviewed
19 the document or subject in the context of SONGS 2 and 3 and have
20 submitted a report of that review.

21 (l) The term "PSAR" refers to the "Preliminary Safety
22 Analysis Report, San Onofre Nuclear Generating Stations, Units 2
23 and 3" which Applicants believe is currently available to the
24 public in the Public Documents Room of the Mission Viejo Public
25 Library.

26 (m) Offshore Zone of Deformation ("OZD") as used in
27 this proceeding is a hypothesized zone of deformation which as
28 defined by the United States Geological Survey ("USGS") consists

1 of the Newport-Inglewood Zone of Deformation, the South Coast
2 Offshore Zone of Deformation and the Rose Canyon Zone of Deforma-
3 tion.

4 INTERROGATORIES AND RESPONSES

5 INTERROGATORY NO. 1:

6 Please identify the person or persons answering these
7 interrogatories by stating name, date of birth, occupation,
8 residence address, business address, and under what authority you
9 are answering these interrogatories.

10 RESPONSE TO INTERROGATORY NO. 1:

11 Responses to Interrogatories were prepared either
12 personally or under the direct supervision of the following
13 persons:

14 2-4, 27; F. R. Nandy, Engineer

15 5-9, 23, 24, 26, 39; H. G. Hawkins, Geologist

16 10-22, 25, 29, 30, 32, 37; J. L. McNey, Geologist

17 31; Patrick Hamilton, Geologist

18 33-36; Tom D. Mercurio, Engineer

19 Each of the above persons is employed by Southern California
20 Edison Company at 2244 Walnut Grove Avenue, Rosemead,
21 California. The answers were prepared as within the scope of
22 their employment. Applicants decline to respond further to said
23 interrogatory on the grounds of relevancy.

24 INTERROGATORY NO. 2:

25 When did the Applicants first decide to construct
26 nuclear reactors at the San Onofre site?

27 RESPONSE TO INTERROGATORY NO. 2:

28 Applicants object to Interrogatory No. 2 as irrelevant

1 to any issue in this proceeding and the answer thereto will not
2 lead to admissible evidence in this proceeding. However, to ex-
3 pedite this proceeding Applicants respond that consideration of
4 San Onofre as a potential alternative site began approximately
5 June, 1961. San Onofre was selected as the site in approximately
6 November, 1962.

7 INTERROGATORY NO. 3:

8 When did the Applicants initiate communications for
9 arrangements with the U.S. Marine Corps at Camp Pendleton to site
10 several nuclear reactors at San Onofre?

11 RESPONSE TO INTERROGATORY NO. 3:

12 Applicants object to Interrogatory No. 3 on the basis
13 it is irrelevant to any issue in this proceeding and the answer
14 thereto will not lead to admissible evidence in this proceed-
15 ing. However, to expedite this proceeding Applicants respond
16 that Applicants initiated communications with the purpose of
17 locating a nuclear generating station on Camp Pendleton approxi-
18 mately May, 1960. The San Onofre site was first suggested in
19 June, 1961, after several discussions with the U.S. Marine Corps
20 regarding potential sites within Camp Pendleton.

21 INTERROGATORY NO. 4:

22 When did the applicants file an application to the AEC
23 to license the siting of nuclear power plants at the San Onofre
24 site?

25 RESPONSE TO INTERROGATORY NO. 4:

26 Applicants objects to Interrogatory No. 4 on the basis
27 that it is irrelevant to any issue in this proceeding and the
28 answer thereto will not lead to admissible evidence in this

1 proceeding. However, to expedite this proceeding, Applicants
2 respond that they filed an application with the AEC to license
3 the siting of nuclear power plants at the San Onofre site on
4 February 1, 1963.

5 INTERROGATORY NO. 5:

6 Do the Applicants believe that at the time at which
7 they filed with the AEC an application for siting nuclear reac-
8 tors at San Onofre that an adequate data base existed for deter-
9 mining the "capability" of the faults within five (5) miles of
10 the current site?

11 RESPONSE TO INTERROGATORY NO. 5:

12 Applicants object to Interrogatory No. 5 on the basis
13 that it is irrelevant to this proceeding and unrelated to any
14 issue in this proceeding. However Applicants most certainly
15 maintain that an adequate geologic and seismic data base was
16 available to determine site suitability. The concept of "capa-
17 bility" as a licensing criterion did not arise until promulgation
18 of 10 CFR Part 100, Appendix A in 1973.

19 INTERROGATORY NO. 6:

20 Do the Applicants believe that an adequate data base
21 existed in 1964 at the time the AEC issued the construction
22 permit for siting nuclear reactors at San Onofre to determine or
23 predict the ground motions that could occur at the site?

24 RESPONSE TO INTERROGATORY NO. 6:

25 Applicants object to Interrogatory No. 6 on the basis
26 it is irrelevant and unrelated to any issue in this proceeding.
27 However, Applicants maintain that an "adequate data base" for
28 prediction of ground motion that could occur at the site existed

1 in 1964.

2 INTERROGATORY NO. 7:

3 Do the Applicants agree with scientists and government
4 agencies that it was not until 1969 that the theory of plate
5 tectonics was widely accepted as the most logical explanation of
6 earthquakes that occur around the Pacific Ocean rim?

7 RESPONSE TO INTERROGATORY NO. 7:

8 The theory of plate tectonics was first expounded prior
9 to 1969. By 1969 the theory of plate tectonics had been widely
10 accepted.

11 INTERROGATORY NO. 8:

12 What is the Richter Magnitude for the Safe Shutdown
13 Earthquake which the Applicants predicted at the time of the
14 Construction Permit Proceedings for Unit One?

15 RESPONSE TO INTERROGATORY NO. 8:

16 Applicants object to Interrogatory No. 8 on the basis
17 that it is irrelevant to any issue in this proceeding and an
18 answer would not result in any information that could lead to
19 relevant evidence in this proceeding. It should be noted that
20 the concept of "safe shutdown earthquake" was not a regulatory
21 criteria at the time of the Unit No. 1 construction permit pro-
22 ceedings. Applicants adopted a "Design Earthquake" that could
23 include a magnitude 6-1/2 event on the Newport-Inglewood fault, a
24 7-1/2 event on the San Jacinto fault or a magnitude 8 event on
25 the San Andreas fault.

26 INTERROGATORY NO. 9:

27 What is the Richter Magnitude for the SSE which the
28 Applicants established with the AEC Staff for Unit One during the

1 Operating License Proceedings?

2 RESPONSE TO INTERROGATORY NO. 9:

3 In response to Interrogatory No. 9, Applicants hereby
4 incorporate their answer to Interrogatory No. 8.

5 INTERROGATORY NO. 10:

6 Did the Applicants provide a formal written notice to
7 the AEC Staff, ASLB, or Commissioners, in the context of the
8 Operating Licensing Proceedings for SONGS Unit One, that in
9 October 1967, the Department of Interior published a report which
10 would require the Bolsa Island reactor to be designed for a Safe
11 Shutdown Earthquake of Magnitude 8.0 on the Newport-Inglewood
12 Fault Zone? If the answer is yes, cite the precise reference
13 where this notice was given.

14 RESPONSE TO INTERROGATORY NO. 10:

15 Applicants object to Interrogatory No. 10 for the rea-
16 son it is irrelevant to any issue in this proceeding and the
17 answer would not lead to evidence admissible in this proceed-
18 ing. However, to expedite this proceeding Applicants respond as
19 follows:

20 (a) The authorization to operate San Onofre Unit
21 No. 1 was issued by the Atomic Energy Commission March 27, 1967.

22 (b) The report referred to in Interrogatory No. 10
23 is dated October, 1967.

24 (c) By letter of November 3, 1967 Applicants were
25 advised that a copy of the subject report had been forwarded to
26 the Chairman of the Atomic Energy Commission.

27 INTERROGATORY NO. 11:

28 Were the applicants aware of the fact (in late 1979, at

1 the time they wrote a Response to Intervenor's Interrogatory
2 No. 4 of September 1979) that a report published in October 1967
3 by the Department of Interior, entitled "Geological-Seismological
4 Factors Pertaining to the Proposed Construction of a Nuclear
5 Power Desalting Plant at Bolsa Island, California" stated that it
6 was feasible to proceed with the project only if the reactor was
7 designed for a Safe Shutdown Earthquake of Magnitude 8 on the
8 Newport-Inglewood Fault?

9 RESPONSE TO INTERROGATORY NO. 11:

10 Applicants had possession of a copy of the subject
11 report at the time it filed its response to the referenced
12 interrogatory. Save and except the above response, Applicants
13 submit that the subject document speaks for itself and Applicants
14 do not agree with the interpretation placed on the report in
15 Interrogatory No. 11. Said report was not within the call of
16 Interrogatory No. 4 (September, 1979).

17 INTERROGATORY NO. 12:

18 Why did the Applicants respond to the Intervenor's
19 Interrogatory by stating that the maximum predicted earthquake on
20 the Newport-Inglewood Zone was a Magnitude 6.5 for the Bolsa
21 Island Project?

22 RESPONSE TO INTERROGATORY NO. 12:

23 Applicants responded to Intervenor's Interrogatory
24 No. 4 of September, 1979 based on Bolsa island reports submitted
25 by its consultants and the PSAR for Bolsa Island dated August,
26 1967.

27 INTERROGATORY NO. 13:

28 Did the Applicants ever provide a formal written notice

1 to the AEC or NRC Staffs, ASLB, or Commissioners, in the context
2 of either the Construction Permit or Operating License Pro-
3 ceedings for SONGS Units 2 and 3, that in October 1967 the
4 Department of Interior had published a report that stated that
5 the Bolsa Island Reactor should be designed for a Safe Shutdown
6 Earthquake of Richter Magnitude 8 on the Newport-Inglewood Fault
7 Zone?

8 RESPONSE TO INTERROGATORY NO. 13:

9 The subject report, "Geological - Seismological Factors
10 Pertaining to the Proposed Construction of a Nuclear Power-De-
11 salting Plant at Bolsa Island, California," October, 1967 has not
12 been referenced by Applicants in this proceeding, nor was it
13 submitted by Applicants at the construction permit stage of this
14 proceeding. Again, Applicants submit that the conclusions of the
15 report speak for themselves and Applicants do not address Inter-
16 venors' interpretations of that document. Further, as stated in
17 Response to Interrogatory No. 10 the Applicants were advised by
18 letter of November 3, 1967 that a copy of said document was
19 provided to the Atomic Energy Commission.

20 INTERROGATORY NO. 14:

21 If the answer to Interrogatory No. 12 is yes, then cite
22 the precise reference and document where this formal written
23 notice took place.

24 RESPONSE TO INTERROGATORY NO. 14:

25 Not applicable.

26 INTERROGATORY NO. 15:

27 What Richter Magnitudes did the Applicants predict for
28 the Safe Shutdown Earthquake for Units 2 and 3 during the

1 Construction Permit Proceedings?

2 RESPONSE TO INTERROGATORY NO. 15:

3 At the time of the construction permit procedures
4 Applicants were not required to, and did not assign to the hypo-
5 thesized offshore zone of deformation a predicted maximum magni-
6 tude event.

7 INTERROGATORY NO. 16:

8 What Richter Magnitude have the Applicants predicted
9 for the Safe Shutdown Earthquake for Units 2 and 3 during the
10 Operating License Proceedings. Cite the precise reference for
11 this prediction. (Also for question No. 14 herein.)

12 RESPONSE TO INTERROGATORY NO. 16:

13 The Richter Magnitude the Applicants predicted for the
14 safe shutdown earthquake for Units 2 & 3 during the operating
15 license proceedings is presented in Response to Questions 361.33,
16 ". . . the maximum earthquake magnitude that may be conserva-
17 tively associated with OZD is M 6-1/2 . . ." Applicants are
18 unable to assign any meaningful interpretation to the parenthe-
19 tical language in Interrogatory No. 16.

20 INTERROGATORY NO. 17:

21 Do the Applicants agree that the OZD near SONGS 2 and 3
22 is an active fault capable of causing strong ground motions at
23 the reactor site?

24 RESPONSE TO INTERROGATORY NO. 17:

25 Applicants have assumed for purposes of design that the
26 hypothesized offshore zone of deformation is a continuous zone of
27 deformation extending some 200 km from the Newport-Inglewood Zone
28 of Deformation in the north to the Rose Canyon Zone of

1 Deformation in the south. Applicants do not believe the
2 hypothesized Offshore Zone of Deformation is an accurate model of
3 the regional geology and tectonics.

4 INTERROGATORY NO. 18:

5 Do the Applicants agree that the OZD is structurally
6 related to the Newport-Inglewood Fault Zone?

7 RESPONSE TO INTERROGATORY NO. 18:

8 The Newport-Inglewood Zone of Deformation constitutes
9 the northern portion of the hypothesized Offshore Zone of Deformation as described in the response to Interrogatory No. 17.

10 INTERROGATORY NO. 19:

11 What is the distance between the epicenter of the 1933
12 earthquake on the Newport Fault Zone and the point on the OZD
13 offshore from SONGS?
14

15 RESPONSE TO INTERROGATORY NO. 19:

16 The distance between the epicenter of the 1933 earthquake on the Newport-Inglewood Zone of Deformation and the
17 closest approach on the hypothesized Offshore Zone of Deformation, offshore from San Onofre, is about 45 km.
18
19

20 INTERROGATORY NO. 20:

21 What is the distance between the epicenter of the 1969
22 earthquake that occurred offshore from Laguna Beach and the point
23 on the OZD offshore from SONGS?

24 RESPONSE TO INTERROGATORY NO. 20:

25 The distance between the epicenter of the October 27,
26 1969 earthquake offshore from Laguna Beach and the closest approach on the hypothesized Offshore Zone of Deformation, offshore
27 from San Onofre, is about 30 km.
28

1 INTERROGATORY NO. 21:

2 Does the Applicant agree that the Newport-Inglewood
3 Fault Zone is an active fault which is capable of causing strong
4 ground motions at the SONGS site?

5 RESPONSE TO INTERROGATORY NO. 21:

6 The Applicants agree that the Newport-Inglewood Zone of
7 Deformation is capable of causing strong ground motions at the
8 site. The Newport-Inglewood Zone of Deformation is a zone of
9 active folds and faults which has generated a magnitude 6.3
10 earthquake in 1933. The closest approach of mapped traces of the
11 Newport-Inglewood Zone of Deformation to Units 2 & 3 is about
12 40 km (25 miles). A magnitude 6.3 earthquake on the Newport-
13 Inglewood Zone of Deformation at its closest approach to the site
14 would generate site acceleration of less than .15 g (Schnabel and
15 Seed 1973).

16 INTERROGATORY NO. 22:

17 When will the Applicant initiate a research contract
18 with a consultant to analyze the ground motions at the site of
19 SONGS 2 and 3 that would result from a Magnitude 8.0 earthquake
20 on the Newport-Inglewood Fault Zone?

21 RESPONSE TO INTERROGATORY NO. 22:

22 A magnitude 8.0 earthquake on the Newport-Inglewood
23 Zone of Deformation is not a credible prediction and thus Appli-
24 cants will not initiate a study of the effects of such an event.

25 INTERROGATORY NO. 23:

26 Do the Applicants agree that one of their consultants,
27 Woodward-Clyde, has recently published a report to the California
28 Coastal Commission regarding the siting of a LNG facility at Camp

1 Pendleton just south of SONGS, which predicted that the facility
2 would need to be designed for a Magnitude 7.25 earthquake on the
3 Offshore Fault Zone?

4 RESPONSE TO INTERROGATORY NO. 23:

5 No. This report was not a design study. WCC Report
6 was a generalized site comparison study for numerous offshore and
7 onshore LNG sites prepared for the California Coastal Commis-
8 sion. The study did not include any detailed evaluation of the
9 capability of the South Coast Offshore Zone of Deformation, but
10 states the zone has an inferred potential for generating earth-
11 quakes as large as Richter magnitude 7-1/4. This value was
12 estimated only for the purpose of comparing the five LNG sites.
13 Because a low level of effort was applied to each site the
14 estimates of Richter magnitude were necessarily over conservative
15 and not intended for design.

16 INTERROGATORY NO. 24:

17 When will the Applicants initiate a research contract
18 with a consultant to analyze the ground motions at the site of
19 SONGS 2 and 3 that would result from a Magnitude [sic] 7.25
20 earthquake on the OZD?

21 RESPONSE TO INTERROGATORY NO. 24:

22 As discussed in response to Interrogatory No. 23,
23 assignment of magnitude 7.25 to the Hypothesized Offshore Zone of
24 Deformation is over conservative. Accordingly, the Applicants
25 have no intent to initiate a research contract to analyze ground
26 motion resulting from a magnitude 7.25 earthquake on the
27 Hypothesized Offshore Zone of Deformation.

28 ///

1 INTERROGATORY NO. 25:

2 Why have the Applicants tried to demonstrate in meet-
3 ings and reports to the NRC Staff in 1979 that the Maximum
4 Earthquake on the OZD will be a Magnitude 6.5?

5 RESPONSE TO INTERROGATORY NO. 25:

6 The Applicants have studied the geology and seismicity
7 of the region and local area surrounding San Onofre to determine
8 the maximum magnitude earthquake that can be postulated to occur
9 in the hypothesized Offshore Zone of Deformation. The results
10 have shown that the maximum magnitude that may be conservatively
11 associated with the hypothesized OZD opposite the site is con-
12 servatively estimated to be M 6-1/2.

13 INTERROGATORY NO. 26:

14 Do the Applicants admit that the SONGS 2 and 3 facili-
15 ties are not designed to withstand an earthquake on the OZD that
16 is greater than a Magnitude 6.5?

17 RESPONSE TO INTERROGATORY NO. 26:

18 No.

19 INTERROGATORY NO. 27:

20 Do the Applicants agree that in the California Coastal
21 Plan issued in December 1975, the California Coastal Commission
22 stated that the California Coastal Zone is not a proper zone to
23 site nuclear reactors because of the severe seismic risks and the
24 proximity of population concentrations which would be exposed to
25 radiation hazards following earthquake damages to a reactor?

26 RESPONSE TO INTERROGATORY NO. 27:

27 Applicants submit that "California Coastal Plan,"
28 December 1975 is a document that speaks for itself. Applicants

1 do not agree with Intervenor's interpretation of the statements
2 contained in that document as reflected in Interrogatory No. 27.

3 INTERROGATORY NO. 28:

4 If the Applicants had not yet begun construction of
5 SONGS 2 and 3, would the Applicants in 1980 apply for a construc-
6 tion permit to construct more reactors at San Onofre, considering
7 the seismic hazards at that site?

8 RESPONSE TO INTERROGATORY NO. 28:

9 Applicants object to Interrogatory No. 28 and decline
10 to respond on the basis it is irrelevant to this proceeding, is
11 argumentative, and calls for meaningless speculation.

12 INTERROGATORY NO. 29:

13 Given the Southern California tectonic setting, would
14 the Applicants agree that there is a component of stress on the
15 Cristianitos Fault?

16 RESPONSE TO INTERROGATORY NO. 29:

17 The Applicants agree that there is north-south compres-
18 sion in Southern California and because the Cristianitos Fault is
19 an extensional feature, not compressional, it is not reacting to
20 this stress regime.

21 INTERROGATORY NO. 30:

22 How can the Applicants prove that the Cristianitos
23 Fault is a relatively discrete fault rather than a broad zone of
24 diffuse faulting?

25 RESPONSE TO INTERROGATORY NO. 30:

26 The Cristianitos Fault is an expression of crustal
27 extension with the block on the west moving down relative to the
28 block on the east. This model produces essentially a single

1 trace rather than a wide zone of shearing. This interpretation
2 is supported by detailed geologic mapping by various investiga-
3 tors. A single trace best defines the fault with the Forster
4 branch breaking subparallel to the fault trend. Field evidence
5 supports the fact that the Cristianitos Fault is a relatively
6 discrete fault.

7 INTERROGATORY NO. 31:

8 Have the Applicants analyzed the tidal wave effects on
9 coastal structures for the earthquake which occurred [sic] in the
10 offshore region along the Pacific Coast of Colombia on Decem-
11 ber 12, 1979? If the answer is no, do the Applicants plan to
12 initiate an analysis of that earthquake?

13 RESPONSE TO INTERROGATORY NO. 31:

14 No, the Applicant has not analyzed the tsunami effects
15 of the referenced Colombia earthquake. The tsunami effects of
16 the earthquake do not warrant any analysis with respect to the
17 SONGS site.

18 INTERROGATORY NO. 32:

19 How could the Applicants' Response (December 1979) to
20 Intervenors' Interrogatory No. 23 (October 1979) be adequate by
21 referring to the response to No. 21 when No. 23 refers to a fault
22 that is located 1.7 miles northwest of the site, and No. 21 does
23 not?

24 RESPONSE TO INTERROGATORY NO. 32:

25 The Type A features discussed in Response 21 (December
26 1979) refer to structural discontinuities that are not related to
27 the Cristianitos fault. Similarly, the features seen in the
28 quarry 1.7 miles north, are also the result of the same stress

1 regime, compression, that form the Type A features referred to in
2 Response 21. Thus, both responses, 21 and 23, refer to geologic
3 structures formed as a result of compression, whereas the Cris-
4 tianitos fault is the result of extension.

5 INTERROGATORY NO. 33:

6 What evidence to Applicants have that personnel at
7 SONGS 2 and 3, during future operations, could perform necessary
8 emergency procedures during and following a severe earthquake,
9 when their lives are being threatened by the circumstances?

10 RESPONSE TO INTERROGATORY NO. 33:

11 In response to Interrogatory No. 33 Applicants deny
12 that a "severe earthquake" would threaten the lives of the
13 operators. The seismic withstand capability of SONGS 2 & 3 is
14 such that occurrence of the maximum earthquake event at the site
15 will not result in either releases of radioactivity or structural
16 damage that would threaten an operator's life. For these reasons
17 Applicants consider that personnel at SONGS 2 & 3 would properly
18 perform any necessary emergency procedures following a "severe
19 earthquake".

20 INTERROGATORY NO. 34:

21 Do the Applicants agree that personeel [sic] would be
22 more likely to make mistakes in procedures, during an earthquake
23 scenario than under "normal accidental conditions"?

24 RESPONSE TO INTERROGATORY NO. 34:

25 In response to Interrogatory No. 34 Applicants maintain
26 that for the short duration of a "severe earthquake", significant
27 ground motion lasting on the order of one minute, operators would
28 not be required to initiate any action. Following the short

1 period of ground motion the operators would evaluate the plant
2 condition and take appropriate action as they would in any other
3 plant incident. For these reasons it is not reasonable to hypo-
4 thesize that personnel would be more likely to make mistakes in
5 procedures during an earthquake scenario than under "normal acci-
6 dent conditions."

7 INTERROGATORY NO. 35:

8 What psychological studies can Applicants site [sic]
9 that support their arguments that operating personnel could
10 respond effectively to Earthquake circumstances at SONGS 2 and 3,
11 during a threat to their safety?

12 RESPONSE TO INTERROGATORY NO. 35:

13 Applicants are not aware of any "psychological studies"
14 that have been conducted as of this date directed specifically to
15 operator response during an earthquake at SONGS 2 & 3. However,
16 as stated in response to Interrogatories 33 and 34, occurrence of
17 the maximum credible event would not constitute a threat to
18 operators' safety and they would be able to perform required pro-
19 cedures subsequent to the event.

20 INTERROGATORY NO. 36:

21 What peak and effective ground accelerations (g values)
22 were the spent fuel rod pools at SONGS 2 and 3 designed and built
23 for?

24 RESPONSE TO INTERROGATORY NO. 36:

25 The SONGS 2 & 3 Fuel Handling Building is designed to
26 .67 g ground accelerations as defined in F.S.A.R. 3.7.1.

27 INTERROGATORY NO. 37:

28 Distinguish secondary features produced by normal slip

1 on the Cristianitos Fault from branches of the Cristianitos
2 Fault?

3 RESPONSE TO INTERROGATORY NO. 37:

4 Secondary features related to the Cristianitos fault
5 are joints and minor shears that are found along the fault
6 trace. Joints and faults with minor offset are seen in the
7 bluffs west of the Cristianitos fault where it is exposed beneath
8 the terrace cover. Inland between San Mateo Creek and San Onofre
9 Creek, secondary shearing and short faults are found adjacent to
10 the mapped trace. Although some investigators have mapped two
11 traces at this interval, the current interpretation is that the
12 fault is a single trace separating rocks of different ages and
13 lithologies.

14 INTERROGATORY NO. 38:

15 Please provide copies of documents which analyze the
16 relationships between the OZD and the Cristianitos Fault Zone,
17 since these are not available in the Mission Viejo Library,
18 including the PSAR, Appendices 2B, 2C, and 2E, and Amendment
19 Number 11 to Appendix 2E.

20 RESPONSE TO INTERROGATORY NO. 38:

21 Applicants object to Interrogatory No. 38 on the ground
22 that said request is not authorized by the Rules of Practice.
23 Intervenor's requests for documents must be pursuant to the pro-
24 cedures set forth in 10 CFR § 2.741(1).

25 INTERROGATORY NO. 39:

26 Have the applicants contracted with consultants to
27 analyze the directivity and focusing effects observed in the
28 seismic wave propagations and instrumental data in the records

1 for each of the following earthquakes:

- 2 a. The Long Beach earthquake of 1933;
3 b. The Santa Barbara earthquake of August 13, 1978;
4 c. The Coyote Lake earthquake of August 6, 1979;
5 d. The Imperial Valley earthquake of October 15, 1979;

6 and

7 3. The Livermore Valley earthquake of January 24,
8 1980.

9 REPOSE TO INTERROGATORY NO. 39:

10 Focusing and directivity effects are observed in essen-
11 tially all instrumentally recorded data. Applicants do not con-
12 sider it necessary to analyze each new data set that becomes
13 available for focusing and directivity.

14 The more significant data sets such as Imperial Valley,
15 1979, and Coyote Lake, 1979, are currently being analyzed, but
16 not specifically for focusing and directivity.

17 DATED: March 18, 1980.

18
19 DAVID R. PIGOTT
20 SAMUEL B. CASEY
21 CHICKERING & GREGORY

22 By David R. Pigott
23 Attorneys for Applicants
24 Southern California Edison Company
25 and San Diego Gas & Electric Company
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CERTIFICATE OF SERVICE

I hereby certify that on the 18th day of MARCH, 1980, a copy of the foregoing "RESPONSE OF SOUTHERN CALIFORNIA EDISON COMPANY AND SAN DIEGO GAS & ELECTRIC COMPANY TO INTERVENOR FOE ET AL. THIRD SET OF INTERROGATORIES" was served upon each of the following by deposit in the United States mail, first-class postage prepaid, addressed as follows:

Ivan W. Smith, Esq., Chairman
Atomic Energy Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dr. Cadet H. Hand, Jr., Member
Director, Bodega Marine Laboratory
University of California
P.O. Box 247
Bodega Bay, California 94923

Dr. Emmett A. Luebke
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Lawrence J. Chandler, Esq.
Office of the Executive Legal Director
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Janice E. Kerr, Esq.
J. Calvin Simpson, Esq.
Lawrence Q. Garcia, Esq.
California Public Utilities Commission
5066 State Building
San Francisco, California 94102

David W. Gilman
Robert G. Lacy
San Diego Gas & Electric Company
P.O. Box 1831
San Diego, California 92112

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1 Robert Dietch, Vice President
2 Southern California Edison Company
3 P.O. Box 800
4 2244 Walnut Grove Avenue
5 Rosemead, California 91770

6 John R. Bury, General Counsel
7 Charles R. Kocher, Esq.
8 James A. Beoletto, Esq.
9 Southern California Edison Company
10 P.O. Box 800
11 2244 Walnut Grove Avenue
12 Rosemead, California 91770

13 Alan R. Watts, Esq.
14 Rourke & Woodruff
15 California First Bank Building
16 10555 North Main Street, Suite 1020
17 Santa Ana, California 92701

18 Richard J. Wharton, Esq.
19 Wharton and Pogalies
20 2667 Camino Del Rio South
21 Suite 106
22 San Diego, California 92108

23 Phyllis M. Gallagher, Esq.
24 1695 W. Crescent Avenue
25 Suite 222
26 Anaheim, California 92801

27 Mrs. Lynn Harris Hicks
28 GUARD
3908 Calle Ariana
San Clemente, California 92672

Mr. Lloyd von Haden
2089 Foothill Drive
Vista, California 92083

James F. Davis
State Geologist
Division of Mines & Geology
1416 Ninth Street
Room 1341
Sacramento, California 95814

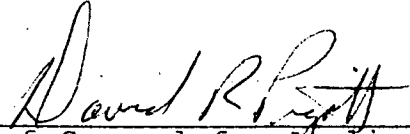
Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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1 Docketing and Service Section
2 Office of the Secretary
3 U.S. Nuclear Regulatory Commission
4 Washington, D.C. 20555

5 

6 One of Counsel for Applicants
7 Southern California Edison Company
8 and San Diego Gas & Electric Company
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VERIFICATION

DAVID R. PIGOTT, being first duly sworn,
deposes and says:

1. That he is a member of the law firm of Chickering & Gregory, San Francisco, California.

2. That he is Counsel for Applicants Southern California Edison Company and San Diego Gas & Electric Company (hereafter "Applicants") in this proceeding.

3. That he is authorized by Applicants to execute and verify the foregoing "RESPONSE OF SOUTHERN CALIFORNIA EDISON COMPANY AND SAN DIEGO GAS & ELECTRIC COMPANY TO INTERROGATORIES FOE, ET AL., THIRD SET OF INTERROGATORIES".

4. That he is informed and believes and upon such information and belief affirms that the foregoing "RESPONSE OF SOUTHERN CALIFORNIA EDISON COMPANY AND SAN DIEGO GAS & ELECTRIC COMPANY TO INTERROGATORIES FOE, ET AL., THIRD SET OF INTERROGATORIES" is true and correct.

DATED: March 18, 1980.

David R. Pigott

Subscribed and sworn to before me
this 18th day of March, 1980.

Edythe M. Bergeson
NOTARY PUBLIC

In and for the City and County of
San Francisco, State of California

My Commission Expires: 6/30/80

